

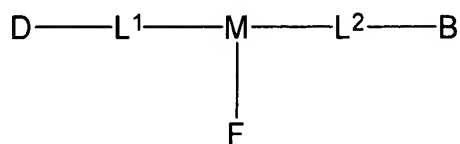
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (previously presented): A compound comprising a cyanine dye or derivative thereof containing at least one target bonding group selected from a carboxylic acid thioester group or a group suitable for covalent reaction with a thioester, wherein said compound includes an affinity tag covalently bound thereto.

Claim 2 (previously presented): The compound of claim 1, having the formula (I):



(I)

wherein:

D is a dye selected from a cyanine dye or a derivative thereof;

B is an affinity tag;

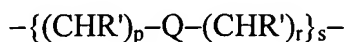
F comprises a target bonding group selected from a carboxylic acid thioester group and a 1,2-aminothiol group;

M is a group adapted for attaching to F; and

L^1 and L^2 each independently include a group containing from 1 – 40 linked atoms selected from carbon atoms which may optionally include one or more groups selected from the group consisting of $-NR'$ -, $-O$ -, $-CH=CH$ -, $-CO-NH$ - and phenylenyl groups, where R' is selected from hydrogen and $C_1 - C_4$ alkyl.

Claim 3 (previously presented): The compound of claim 2, wherein each of L^1 and L^2 contains from 2 to 30 atoms.

Claim 4 (previously presented): The compound of claim 2, wherein L^1 and L^2 are independently selected from the group consisting of:



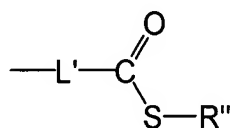
where Q is selected from the group consisting of: $-\text{CHR}'$ -, $-\text{NR}'$ -, $-O$ -, $-CH=CH$ -, $-\text{Ar}$ - and $-CO-NH$ -; R' is hydrogen or $C_1 - C_4$ alkyl, p is 0 – 5, r is 1 – 5 and s is 1 or 2.

Claim 5 (previously presented): The compound of claim 4, wherein Q is selected from the group consisting of $-\text{CHR}'$ -, $-O$ - and $-CO-NH$ -, where R' is hereinbefore defined.

Claim 6 (previously presented): The compound of claim 1, wherein said affinity tag is selected from the group consisting of biotin and desthiobiotin.

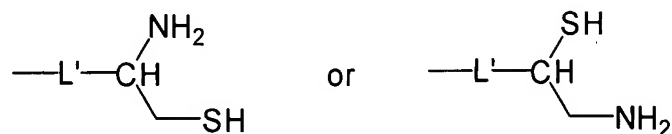
Claim 7 (withdrawn): The compound of claim 1, wherein said affinity tag is selected from the group consisting of his-tag, iminodiacetic acid and nitrilotriacetic acid.

Claim 8 (previously presented): The compound of claim 2, wherein the target bonding group F is a carboxylic acid thioester of formula:



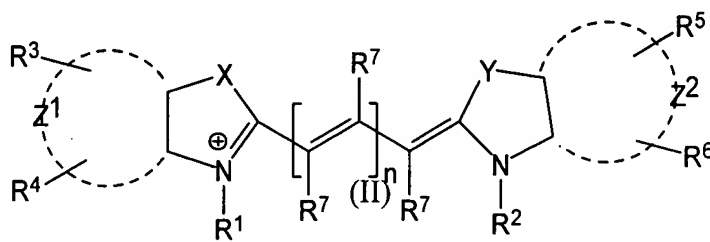
wherein L' is a bond or is a group containing from 1 – 30 linked atoms selected from the group consisting of carbon atoms and carbon atoms including one or more groups selected from the group consisting of –NH–, –O– and –CO–NH–; and R'' is C₁ – C₄ alkyl, C₆ – C₁₀ aryl, or C₇ – C₁₅ aralkyl, which may be optionally substituted with sulphonate; or is the group –(CH₂)₂–CONH₂.

Claim 9 (withdrawn): The compound of claim 2, wherein the target bonding group F is a 1,2-aminothiol group of formula:



wherein L' is a bond or is a group containing from 1 – 30 linked atoms selected from the group consisting of carbon atoms and carbon atoms including one or more groups selected from the group consisting of –NH–, –O– and –CO–NH–.

Claim 10 (previously presented): The compound of claim 2, having the formula (II):



wherein:

groups R³ and R⁴ are attached to the Z¹ ring structure and groups R⁵ and R⁶ are attached to the Z² ring structure;

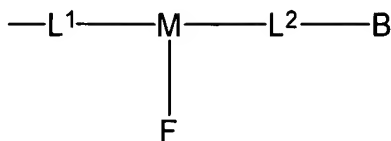
n is an integer from 1 to 3;

Z¹ and Z² independently represent the atoms necessary to complete one ring or two fused ring aromatic or heteroaromatic systems, each ring having five or six atoms selected from carbon atoms and optionally no more than two atoms selected from oxygen, nitrogen and sulphur;

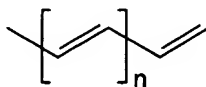
X and Y are the same or different and are selected from: >CR⁸R⁹, oxygen, sulphur,

–CH=CH–, >N–W wherein N is nitrogen and W is selected from hydrogen and the group R¹⁰;

at least one of groups R^1 , R^2 , R^3 , R^4 , R^5 , R^6 , R^8 , R^9 and R^{10} is the group:



groups R^7 are independently selected from the group consisting of hydrogen and $C_1 - C_4$ alkyl which may be unsubstituted or substituted with aryl, or two or more of R^7 together with the group:



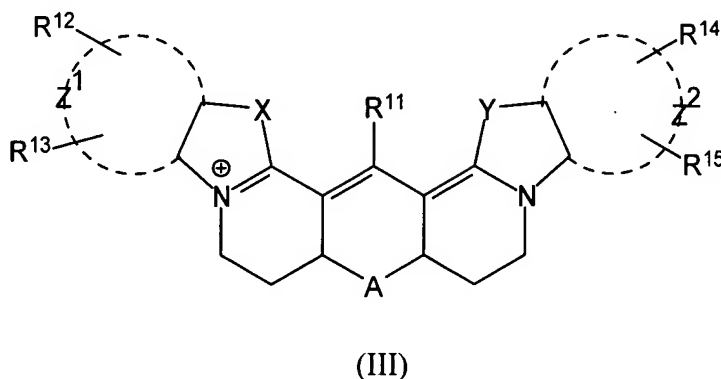
form a hydrocarbon ring system substituted with R^7 and which may optionally contain a heteroatom selected from $-O-$, $-S-$ or $>NR^7$;

remaining groups R^3 , R^4 , R^5 and R^6 are independently selected from the group consisting of hydrogen, halogen, amide, cyano, nitro, mono- or di- $C_1 - C_6$ alkyl-substituted amino, carbonyl, carboxyl, $C_1 - C_6$ alkyl, $C_1 - C_6$ alkoxy, aryl, heteroaryl, aralkyl and the group $-(CH_2)_m-Y$ where Y is selected from sulphonate, sulphate, phosphonate, phosphate and quaternary ammonium and m is zero or an integer from 1 to 6;

remaining groups R^8 , R^9 and R^{10} are independently $C_1 - C_6$ alkyl; and

remaining groups R^1 and R^2 are independently selected from hydrogen, $C_1 - C_{10}$ alkyl, the group $-(CH_2)_m-Y$ wherein Y and m are hereinbefore defined, and benzyl which may be unsubstituted or substituted by up to two nitro groups.

Claim 11 (withdrawn): The compound of claim 2, having the formula (III):



wherein

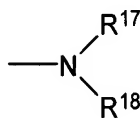
groups R^{12} , R^{13} , R^{14} and R^{15} are attached to the rings containing X and Y or, optionally are attached to atoms of the Z^1 and Z^2 ring structures;

Z^1 and Z^2 independently represent the atoms necessary to complete one ring or two fused ring aromatic or heteroaromatic systems, each ring having five or six atoms selected from carbon atoms and optionally no more than two atoms selected from oxygen, nitrogen and sulphur;

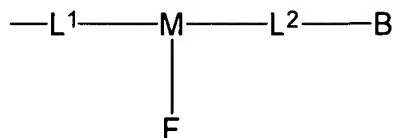
X and Y are the same or different and are selected from: $>CR^8R^9$, oxygen, sulphur,

$-CH=CH-$, $>N-W$ wherein N is nitrogen and W is selected from hydrogen and the group R^{10} ;

A is selected from O and NR^{16} where R^{16} is the substituted amino radical:



at least one of groups R^8 , R^9 , R^{10} , R^{11} , R^{12} , R^{13} , R^{14} , R^{15} , R^{17} and R^{18} is the group:



remaining groups R^{11} , R^{12} , R^{13} , R^{14} and R^{15} are independently selected from the group consisting of hydrogen, halogen, amide, cyano, nitro, mono- or di- $C_1 - C_6$ alkyl-substituted amino, carbonyl, carboxyl, $C_1 - C_6$ alkyl, $C_1 - C_6$ alkoxy, aryl, heteroaryl, aralkyl and the group $-(CH_2)_m\text{---Y}$ where Y is selected from sulphonate, sulphate, phosphonate, phosphate and quaternary ammonium and m is zero or an integer from 1 to 6;

remaining groups R^8 , R^9 and R^{10} are independently $C_1 - C_6$ alkyl;

remaining group R^{17} is selected from hydrogen, $C_1 - C_4$ alkyl and aryl; and remaining

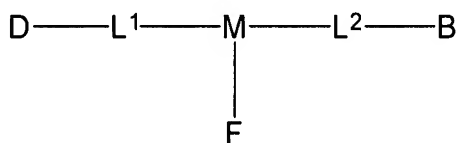
group R^{18} is selected from $C_1 - C_6$ alkyl, aryl, heteroaryl, an acyl radical having from 2-7 carbon atoms, and a thiocarbamoyl radical.

Claim 12 (previously presented): The compound of claim 10, wherein Z^1 and Z^2 are selected independently from the group consisting of phenyl, pyridinyl, naphthyl, quinolinyl and indolyl moieties.

Claim 13 (previously presented): The compound of claim 10, wherein Z^1 and Z^2 are selected from phenyl and naphthyl moieties.

Claim 14 (withdrawn): A method for labelling a protein of interest wherein said protein contains or is derivatised to contain an N-terminal cysteine, the method comprising:

- i) adding to a liquid containing said protein a compound of formula (I):



(I)

wherein:

D is a dye selected from a cyanine dye or a derivative thereof;

B is a bioaffinity tag;

F comprises a target bonding group selected from a carboxylic acid thioester group and a 1,2-aminothiol group;

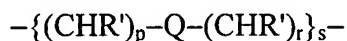
M is a group adapted for attaching to F; and

L^1 and L^2 each independently include a group containing from 1 – 40 linked atoms selected from carbon atoms which may optionally include one or more groups selected from $-\text{NR}'-$, $-\text{O}-$, $-\text{CH}=\text{CH}-$, $-\text{CO}-\text{NH}-$ and phenylenyl groups, where R' is selected from hydrogen and $\text{C}_1 - \text{C}_4$ alkyl; and

- ii) incubating said compound with said protein under conditions suitable for labelling said protein.

Claim 15 (withdrawn): The method of claim 14, wherein each of L^1 and L^2 contains from 2 to 30 atoms.

Claim 16 (withdrawn): The method of claim 14, wherein L^1 and L^2 are independently selected from the group:



where Q is selected from the group consisting of: $-\text{CHR}'-$, $-\text{NR}'-$, $-\text{O}-$, $-\text{CH}=\text{CH}-$, $-\text{Ar}-$ and $-\text{CO}-\text{NH}-$; R' is hydrogen or $\text{C}_1 - \text{C}_4$ alkyl, p is 0 - 5, r is 1 - 5 and s is 1 or 2.

Claim 17 (withdrawn): The method of claim 16, wherein Q is selected from the group consisting of $-\text{CHR}'-$, $-\text{O}-$ and $-\text{CO}-\text{NH}-$, where R' is hereinbefore defined.

Claim 18 (withdrawn): The method of claim 14, further comprising separating and/or purifying the dye-labelled protein of interest by affinity chromatography.

Claim 19 (withdrawn): The method of claim 14, wherein said protein of interest is selected from the group consisting of antibodies, antigens, proteins, peptides, microbial materials, cells and cell membranes.

Claim 20 (withdrawn): The compound of claim 11, wherein Z^1 and Z^2 are selected independently from the group consisting of phenyl, pyridinyl, naphthyl, quinolinyl and indolyl moieties.

Claim 21 (withdrawn): The compound of claim 11, wherein Z^1 and Z^2 are selected from phenyl and naphthyl moieties.